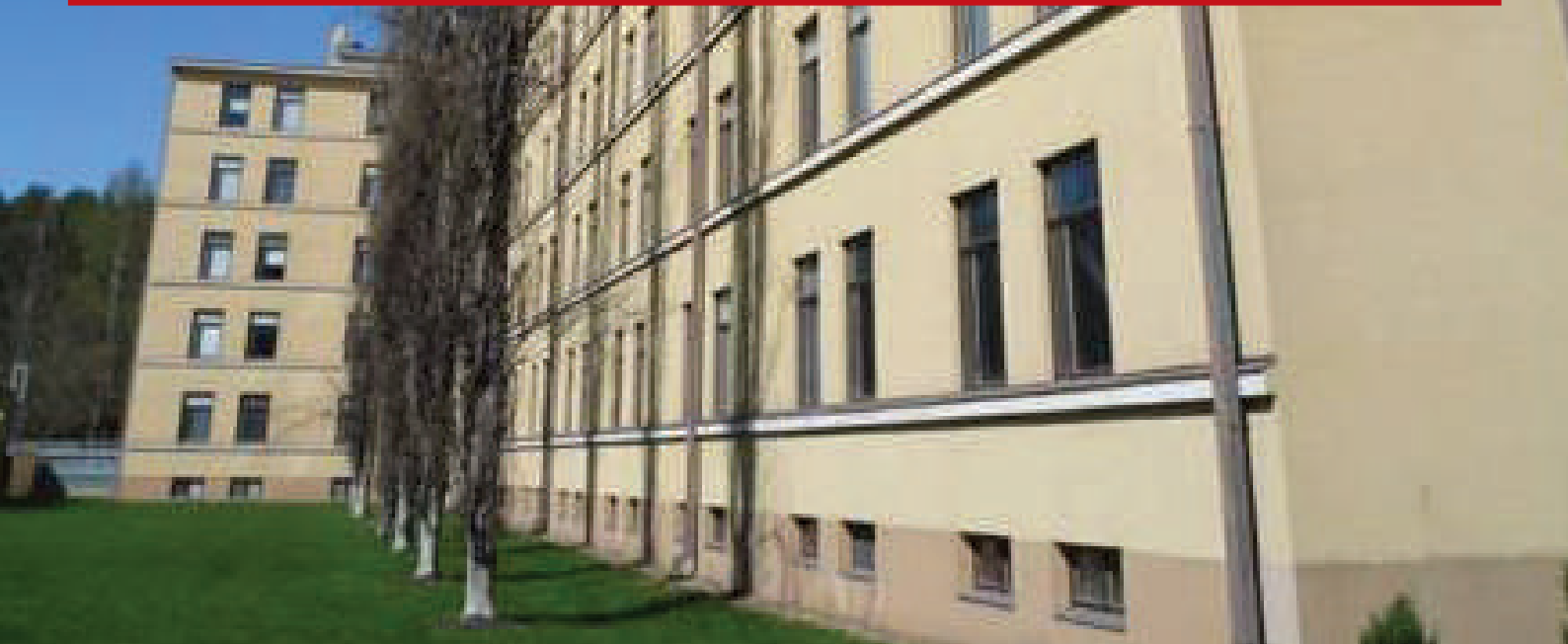


Case story | SEM-SAFE® high-pressure water mist system

# Pikonlinna Hospital in Finland

Senior care center protected with SEM-SAFE® high-pressure water mist system for fire fighting

Danfoss Fire Safety A/S



Pikonlinna Hospital is a large hospital located in the Municipality of Kangasala, a town of 30,000 inhabitants located 17 km east of the City of Tampere, Finland. This facility consists of four wings, six floors and houses private senior care and nursing homes. The facility is undergoing constant refurbishment as the old hospital wings are being renovated one by one. Once completed, the facility will house, among others, an outpatient clinic, a physical training center, various health services for seniors, a retail shop and a restaurant.

## History

The hospital was originally commissioned as a sanatorium for the treatment of tuberculosis in 1931. In 1968 the hospital was officially renamed as Pikonlinna Central Hospital and became a part of the Tampere University Hospital. Since 2008 the facility has been fitted with SEM-SAFE® high-pressure water mist system for fire fighting from Danfoss.

## Building description

The hospital consists of two separate buildings connected by a subterranean walkway. The main building has six stories in four wings and a basement, and is constructed of concrete walls and ceilings. The total combined floor area of the hospital is approximately 15,000 m<sup>2</sup>.



### SEM-SAFE® high-pressure water mist system

The hospital was fitted with a SEM-SAFE® high-pressure water mist fire fighting system. Installation work commenced in October 2008 and has been ongoing since, one floor and a wing at a time. The areas to be protected were empty of patients/residents at the time of the installation work, as the installation was timed to coincide with the renovation work schedule.

The system consists of the SEM-SAFE® electric pump unit, 4,900 m pipes (Ø12 mm, Ø22 mm, and Ø28 mm) and 1,300 nozzles.

The customer allowed Provacuum, Danfoss business partner in Finland, to install a test nozzle and a display facility in one empty room within the hospital building. This room has a sliding glass door, allowing potential customers, company trainees, authorities, etc. to view the high pressure water mist in action. The room is fitted with one Public Space Nozzle powered by the main pump unit in the building via a separate valve and a feed line.

### Approving authority

The system design was approved by Alarm Control Alco Oy Ab, one of the three inspection companies accredited by the Finnish Safety Technology Authority. The design was then inspected by the Pirkanmaa Provincial Fire Department. The final installation was tested and inspected by Alarm Control Alco Oy Ab. Fire test criteria were not needed due to prior acceptance of the system's components.



Pikonlinna Hospital, protected with SEM-SAFE® high-pressure water mist system from Danfoss.

### The benefits of SEM-SAFE®

The benefits of the SEM-SAFE® high-pressure water mist from Danfoss are immense:

- Minimized water damage upon system activation.
- Easier installation.
- Aesthetic appearance compared to a sprinkler.

### The owner of the care center explains:

*"I prefer high-pressure water mist technology because of all the expensive equipment housed in this specific facility; it was the right choice due to its advantages and suitability for a historically valuable building."*

*"Provacuum provided me with a consultative role in finalizing the design parameters of the system and has supported us very well in interacting with the different authorities."*



SEM-SAFE® high-pressure water mist nozzle from Danfoss.



Example of SEM-SAFE® installation at Pikonlinna Hospital.